A Revision of the Genus *Adoxophyes* (Lep. Tort.) of Japan

By TOSHIRÔ YASUDA

INTRODUCTION

A great deal of confusion has arisen in the past over the identities of the adults of four species of the genus *Adoxophyes* in Japan. It involvs *Adoxophyes privatana* (WLK.), *A. congruana* (WLK.), *A. fasciculana* (WLK.) and *A. fasciata* (WLSM.).

But, the results of the examination of wing markings of adults reared from a variety of food plants during current investigations revealed not only the several distinct forms, in which are sometime apparently almost obsolute, but also the middle forms among these each species. On the one hand, male and female genitalia of the four species were same perfectly with those of *A. orana* (F. R.). And the form, chaetotaxy, and colour of larvae are not differ, too.

Accordingly, the four species in Japan are probably the same species, which is known as *A. orana* (F. R.) in Europe.

So, I consider that the superficial differences in the wing markings is influenced by a variety of food plants and season.

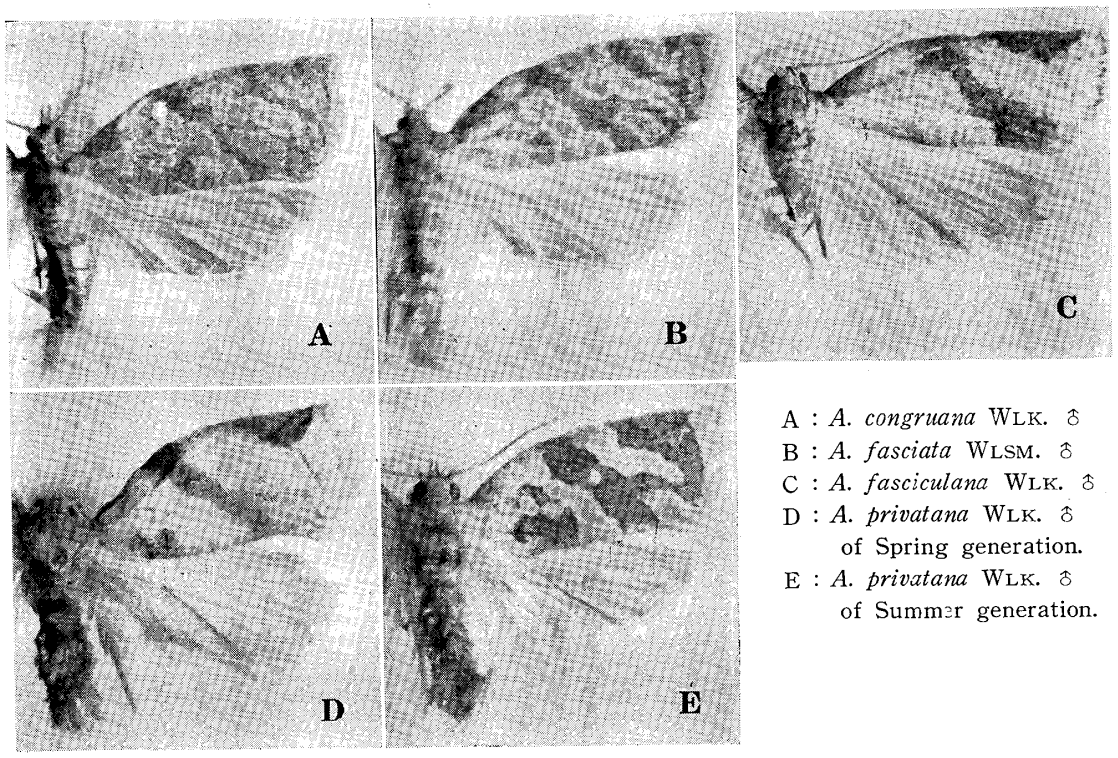
The identifications of the species mentioned are based on materials identified by Dr. S. ISSIKI in the British Museum.

Before going further, I wish to express my cordial thanks to Prof. Dr. SYÛTI ISSIKI for suggesting this investigation as well as for constant guidance in the course of the work. And thanks are aiso to Dr. S. ITO, Mr. A. MUTUURA and Mr. T. KODAMA for much help during the course of work.

LIFE HISTORY AND FOOD PLANTS

In KINKI (Central Japan), the species has four or five generations each year, and in TÔHOKU (North-east Japan) the species has three or four generations per year.

A. privatana is known to the important pest of tea in Sizuoka (Cental Japan), and *A. congruana* was particularly injurious in the apple orchards of TÔHOKU.



A : *A. congruana* WLK. ♂
B : *A. fasciata* WLSM. ♂
C : *A. fasciculana* WLK. ♂
D : *A. privatana* WLK. ♂ of Spring generation.
E : *A. privatana* WLK. ♂ of Summer generation.

On tea, young larvae overwinter in the leave, which is combined two or three. The larvae feed on top-shoots and leave.

On apple, young larvae overwinter in the hibernacula of silken webs in any convenient sheltered position on the tree. The larvae feed on flower-buds, flowers, top-shoots and fruit.

The larva is yellowish when first hatched, and the larva when about pupate, was described 15~17mm. long, pale green ; head shiny yellowish-brown or rarely blackish.

Other host plants recorded in Japan are Hama-hisakaki (*Eurya emarginata* MAKINO), box-tree (*Ilex crenata* THUNB.), bead-tree (*Melia Azederach* L.), soy-bean (*Glycine Max* MERRILL), Hagi (*Lespedeza bicolor* TURCZ.), raspberry (*Rubus palmatus* THUMB.), Kômorikazura (*Menispermum danricum* DC.), Kunugi (*Quercus acutissima* CARRUTH), Yamamomo (*Myrica rubra* SIEB. et ZUCC.), Maki (*Podocarpus macrophylla* D. DON), elm-tree (*Ulmus parrifolia* JACQ.), birch-tree etc.

DISCUSSION

At present, the identification of the four species of the genus *Adoxophyes* in Japan is based chiefly upon the wing marking of adult. (See Text-figure 1.) But, the wing marking has considerable variation by food plant, namely *privatana* form is reared from tea (*Thea sinensis* LINN.), Nurude (*Rhus javanica* L.), sweet orange (*Citrus Unshiu* MARCOV.), poplar, cherry, etc, and *fasciculana* form is reared from Kanko-no-ki (*Glochidion obovatum* SIEB. et ZUCC.), Hime-mukashi-yomogi (*Erigeron conadensis* L.) etc, and *fasciata* form is reared from pear, Azami (*Cirsium japonicum* DC.), etc, and *congruana* form is reared from apple, plum, rose, etc. Furthermore, *privatana* has seasonal variation, and the spring generation is closely related to *fasciculana* than *privatana*. Accordingly, it is certain that the identifications made from that method are very uncomplate.

As mentioned above, the four species can not distinguish by the wing markings and form or life-history of larvae.

So, I had examined in male and female genitalia of the four species. Consequently, it is a little different in length, size of uncus and the number of thorn-like process on transtilla. But, I regard as appropriate to think rather individual variation than specific character, because the variety have a tendency to occur among the materials that it does not seen necessary to separate it apparently.

Accordingly, the four species does not seen neccessary to separate generically. And male and female genitalia of the species agree with *reticulana* HÜBNER that, but *reticulana* and *fasciata* are preoccupied to that *orana* (F. R.), appears to be the first valid name (BRADLEY, 1952).

Because, I believe I can now correctly identify the four species as a synonym of *Adoxophyes orana* (FISCHER von ROESLERSTSMM).

While, I accepted on offer of materials that they are collected by Dr. S. ISSIKI at Taiwan and Saipan. The two species have peculiar marking, but they do not separate Japanese specimen.

In 1941, *Adoxophyes thoracica* is recorded by Dr. A. DIAKONOFF from N. New-guinea, but as far as I can judge from the description and figures, it is probably the same specimen in Japan. So, the *A. thoracica* refer also to *A. orana* (F. R.).

Male and female genitalia are illustrated.

SUMMARY

The object of this paper was to clarify the confusion that has existed for many years in the nomenclature and taxonomy of moths of the Genus *Adoxophyes* in Japan. The genera involved *privatana*, *congruana*, *fasciculana* and *fasciata*, and of these the first is known to the important pest of green-tea, and the second is known to the important pest of apple.

But, result of revision, this four species does not seen necessary to separate generically.

I believe I can now correctly identify this four species as a synonym of *orana* (F.R.).

REFERENCES

MEYRICK, E. (1881). Description of Australian Micro-Lepidoptera, Proc. Linn. Soc. N. S. Wales, Vol. VI, p. 429.

WALSINGHAM, L. (1900). Asiatic Tortricidae, Ann. Mag. Nat. Hist. (7), Vol. V, p. 482.

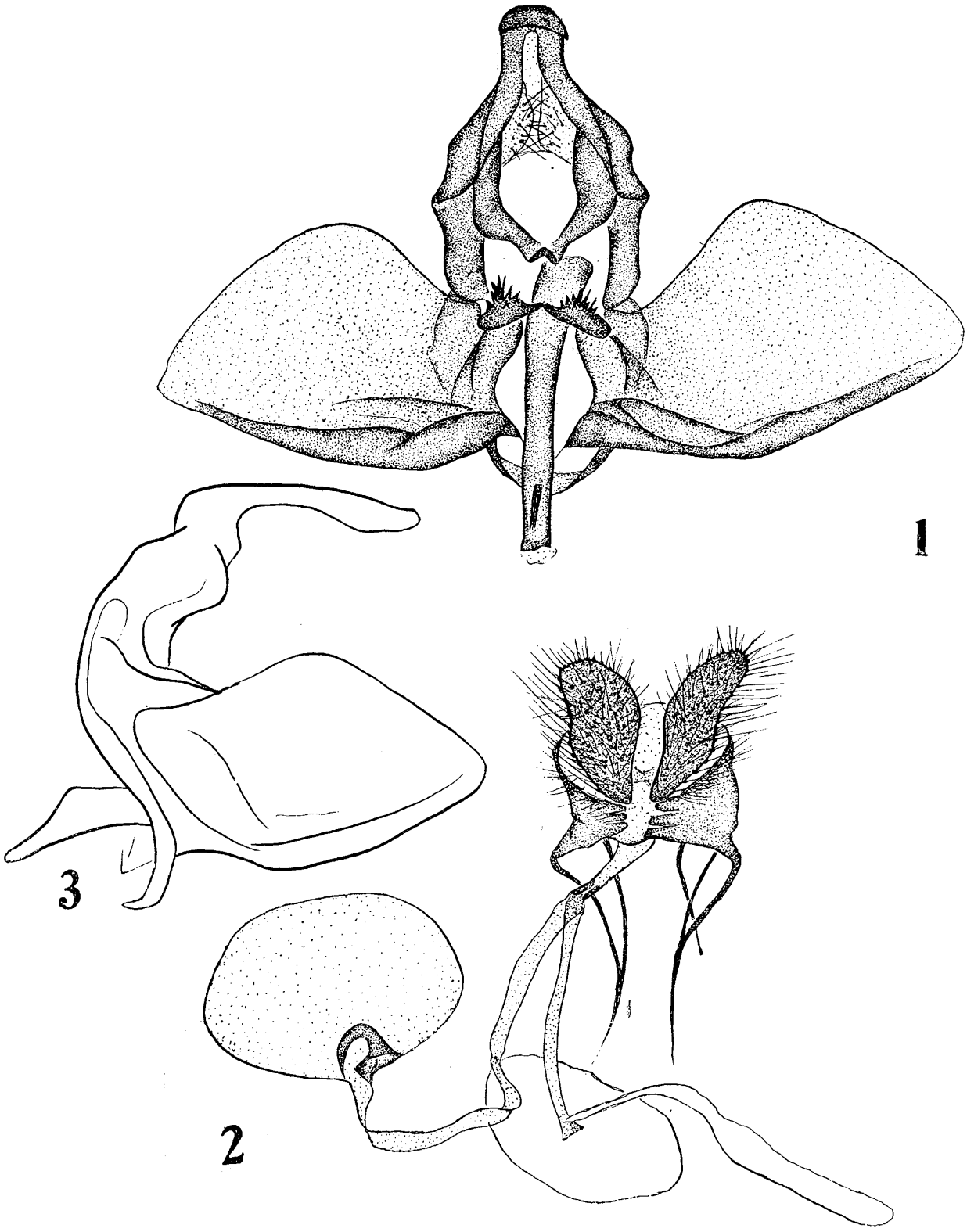


Fig. 1. Male genitalia
Fgi. 2. Female genitalia
Fig. 3. Male genitalia, lateral aspect.

KENNEL, J. (1910). Die Palaearktischen Tortriciden, p. 122.
MEYRICK, E. (1914). Genera Insectorum, Lep. Het. Tort., p. 18.
FLETCHER, B. (1920). Life-Histories of Tortricidae, Mem. Dep. Agr. India, p. 35.
ISSIKI S. (1922). Catalogue of Japanese Tortricina, Zool. Mag., Vol. 34, p. 283.
TAKAHASHI S. (1930). 果樹害虫各論，上巻
KONDO T., MIYAHARA H. (1934). 害虫に関する試験並研究第1報
DIAKONOFF, A. (1941). New Asiatic and Papuan Tortricidae with Records of other species, Treubia Deel 18, Afl. I, p. 33-37.
ISSIKI S. (1950). Iconographia Insectorum Japonicorum, p. 495.
DIAKONOFF, A. (1951). Entomological results from the Swedish expedition 1934 to Burma and British India, (Lepi.) Arkiv Zool. (3), nr. 6, p. 63.
BRADLEY, J. A. (1952). Adoxophyes orana (F. R. 1834) (Lep.: Tort.), Entomologist, Vol. 85, p. 1-4.
GROVES, R. (1952). A Preliminary Account of the Summer fruit Tortricidae, Adoxophyes (F. R.) in Great Britain, Rep. E. Malling Res. Sta. 1951, p. 152-154.
YUASA K., KAWATA K. (1952). 農作害虫新説
HARDMAN, J. A. (1953). The Summer Fruit Tortrix Moth, Adoxophyes orana (F.R.), in Britain, Entomologist, Vol. 86, p. 264-272.
SIRAKI T. (1954). Classification of Insect, p. 349.
OBRAZTSOV, S. (1954). Die gattungen der palaearktischen Tortricidae, Tijd. Ent., dl. 97, afl. 3, p. 189.

ウスイロヒヨウモンモドキの卵及び若令幼虫に就いて

川 副 昭 人

On the Eggs and the Young Caterpillars of *Melitaea diamina protomedia* MÉNÉTRIÈS

By AKITO KAWAZOE

ウスイロヒヨウモンモドキの幼虫に関しては，従来徳山錬也氏の終令幼虫に関する簡単な記載[1]があるのみで，一貫した生活史の記録が見られない．筆者は1953年本種の採卵に成功したが飼育に失敗した．然し食草を知り得たので，1955年再び自宅及び野外で採卵，飼育した．不幸にして此の度も越冬中に全幼虫を死なせてしまったが，本種の若令期に関する知見を得たので，越冬前の生育経過を簡単に述べて，今後の研究の参考に資したい[2]．

食草：オミナエシ *Patrinia scabiosaefolia*

卵：直径 0.44mm, 高さ 0.51mm. 著しく小型．上面やゝ凹陥し，側面上部3分の1に約18条の弱い縦条があり，その下部3分の2には極めて弱い粗網目状隆起を有する．概形は壺状をなす．

産付直後の卵はやゝ緑色味を帯びた黄白色．孵化が近ずくと卵内幼虫頭部の単眼周辺が黒化し，次いで大顎が褐色化するので，一見して卵は淡褐色を呈するようになる．なお，卵はオミナエシ花梗基部に叢生する若い葉の裏面に数十乃至二百卵位がかたまて産付されており，母蝶の産卵にはかなり長時間を要する．産卵期は兵庫県段ケ峯草原で7月上～中旬，卵期は室内で12～14日，野外[3]では7月下旬に孵化直後の幼虫群を発見しうる．

幼令幼虫：1令幼虫は体長約 1.5mm, 淡黄褐色で頭部淡褐，単眼部黒色．各節に無色無刺の長毛を叢生する．気門は小さい．前胸背板は大きく横長で，中央後縁はやゝ前方に向って彎入しており，黄褐色．肛上板ははる